

CLAIMS

1. A 90 degree turning display apparatus for an image signal characterized by comprising a sequential scanning circuit for signal-converting a jump scanning type image signal into a sequential scanning type and a signal turning unit for turning the signal through 90 degrees, wherein the image signal turned through 90 degrees may be fed in real time to a display.
2. The display apparatus according to claim 1, characterized by comprising a sequential scanning type circuit for converting the inputted jump scanning type image signal into a sequential scanning type, a memory for storing as image data the signal converted into the sequential scanning type, and an address generating circuit for writing the image data to a designated address of said memory and reading out the image data from the designated address, wherein the image data are turned through 90 degrees when reading out from said memory so that the image data may be displayed in real time on the display.
3. The display apparatus according to claim 2, characterized by comprising a decoder circuit for decoding an inputted jump scanning type analog video signal, a sequential scanning type circuit for converting the decoded jump scanning type analog video signal into a sequential scanning type, a memory for storing as the image data the jump scanning type analog video signal converted in the sequential scanning type, an address generating circuit for writing the image data to a designated address of said memory and reading out the image data from the designated address, and a D/A converter for making the read image data an analog signal, wherein the image data are turned through 90 degrees when reading out from said memory so that the image data may be displayed in real time on the display.
4. A 90 degree turning display method wherein a jump scanning type image signal is signal-converted into a sequential scanning type for turning the image signal through 90 degrees and the signal is turned through 90 degrees and fed and displayed in real time on a display.
5. The display method according to claim 4, wherein the inputted jump scanning type image signal is converted into the sequential scanning type by a sequential scanning type circuit, the image is written in a memory, and the written image data are read out by an address that has been turned through 90 degrees whereby the image is turned and fed and

displayed in real time on the display.

6. The display method according to claim 5, wherein an inputted jump scanning type analog video signal is quantized and decoded by a decoder circuit, the quantized image data are converted into a sequential scanning type by the sequential scanning type circuit, the image is written in the memory on the basis of the address produced in the address generating circuit, read out on the basis of the address turned through 90 degrees and formed into an analog signal by a D/A converter to thereby turn the image to be fed and displayed in real time on the display.

7. A display apparatus characterized by comprising an input section for inputting an image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a camera or the like, a 90 degree image turning processing section for writing in a memory the image signal to be inputted in real time from the input section and making it possible for turning the written image data through 90 degrees, and an output section for outputting the image signal to a laterally elongated display or a vertical display set in a vertical direction by turning the laterally elongated display through 90 degrees, wherein the image signal outputted from the image feeding unit may be fed and displayed to the laterally elongated or vertical display in real time as the image signal turned through 90 degrees by said 90 degree image turning processing section.

8. A display apparatus characterized by comprising an input section for inputting a jump scanning type image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a camera or the like, a scanning type converting section for converting into a sequential scanning type image signal the jump scanning type image signal inputted in real time from the input section or an image signal whose image has been turned through 90 degrees (including 270 degrees), a 90 degree image turning processing section for turning through 90 degrees (including 270 degrees) the image of the image signal converted into the sequential scanning type in real time or the jump scanning type image signal inputted in real time from said input section, and an output section for outputting in real time the sequential scanning type image signal that has been turned through 90 degrees, wherein the image signal that has been turned through 90 degrees and outputted from the output section is inputted to a vertical display set by turning a lateral elongated display

through 90 degrees and the image of the image feeding unit may be displayed on the vertical display in real time.

9. A display apparatus characterized by comprising an input section for inputting a jump scanning type image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a camera or the like, a scanning type converting section for converting into a sequential scanning type image signal the jump scanning type image signal inputted in real time from the input section or an image signal whose image has been turned through 90 degrees (including 270 degrees), a 90 degree image turning processing section for turning through 90 degrees (including 270 degrees) the image of the image signal converted into the sequential scanning type in real time or the jump scanning type image signal inputted in real time from said input section, an output section for outputting in real time the sequential scanning type image signal that has been turned through 90 degrees, and an image synthesizing section for synthesizing the sequential scanning type image signal turned through 90 degrees by said scanning type converting section and said 90 degree image turning processing section and blank display data of a sequential scanning type image signal produced by a computer, image data, letter data or the like, wherein the synthesized data signal including the image signal represented in real time from the image synthesize section is outputted from said output section, the synthesized data signal including the image signal that has been turned through 90 degrees and outputted from the output section is inputted to a vertical display set by turning a lateral elongated display through 90 degrees and the image of the image feeding unit may be displayed on the vertical display in real time.

10. A display apparatus characterized by comprising an input section for inputting an image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a camera or the like, a 90 degree image turning processing section for writing in a memory the image signal to be inputted in real time from the input section and making it possible for turning the written image data through 90 degrees and for feeding and displaying the data to the vertical display in real time, and an output section for outputting the sequential scanning type image signal turned through 90 degrees in real time, wherein the image of the image feeding unit turned through 90 degrees may be fed and displayed in real time on the vertical display which is set in the vertical direction by turning a laterally

elongated display through 90 degrees, the turning image data already subjected to the 90 degree turning process by said 90 degree image turning processing section are always once written in an image memory, this image memory is renewed in real time, and the turning image data readout from this image memory is outputted to said vertical display so that the data may be fed and displayed in real time on the vertical display, further comprising an image data output section in which the turning image data written in each area which is obtained by dividing area of said image memory into a plurality of area may be displayed in a corresponding display area of said vertical display divided in a plurality of area in the same manner, and a renewal area switching section structured to make it possible to change each area of said image memory from a mode of renewing the turning image data in real time to a mode of stopping the renewal of the turning image data or from the mode of stopping the renewal of the turning image data to the mode of renewing the data in real time, wherein the image signal turned through 90 degrees and outputted from said output section is inputted to said vertical display and the image of said image feeding unit may be displayed on said vertical display in real time.

11. A display apparatus characterized by comprising an input section for inputting an image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a camera or the like, a scanning type converting section for converting into a sequential scanning type image signal a jump scanning type image signal inputted in real time from the input section or an image signal whose image has been turned through 90 degrees (including 270 degrees), a 90 degree image turning processing section for writing in a memory the image signal to be inputted in real time from the input section or the image signal converted into the sequential scanning type and for turning the written image data through 90 degrees and for feeding and displaying the data to the vertical display in real time, and an output section for outputting the sequential scanning type image signal turned through 90 degrees in real time, wherein the image of the image feeding unit turned through 90 degrees may be fed and displayed in real time on the vertical display which is set in the vertical direction by turning a laterally elongated display through 90 degrees, the turning image data already subjected to the 90 degree turning process by said 90 degree image turning processing section are always once written in an image memory, this image memory

is renewed in real time, and the turning image data readout from this image memory is outputted to said vertical display so that the data may be fed and displayed in real time on the vertical display, further comprising an image data output section in which the turning image data written in each area which is obtained by dividing area of said image memory into a plurality of area may be displayed in a corresponding display area of said vertical display divided in a plurality of area in the same manner, and a renewal area switching section structured to make it possible to change each area of said image memory from a mode of renewing the turning image data in real time to a mode of stopping the renewal of the turning image data or from the mode of stopping the renewal of the turning image data to the mode of renewing the data in real time, wherein the image signal turned through 90 degrees and outputted from said output section is inputted to said vertical display and the image of said image feeding unit may be displayed on said vertical display in real time.

12. The display apparatus according to any one of claims 10 and 11, characterized in that the turning image data to be renewed in real time in correspondence with the image signal to be inputted from the image feeding unit are displayed as a normal image that may be displayed in motion picture in a image display area of said vertical display corresponding to one area which is set so that the turning image data of said image memory are renewed, and turning image data renewed last in the turning image data renewed in real time are displayed as a stationary image are displayed in an image display area of said vertical display corresponding to another predetermined area which is set so that the renewal of the turning image data is stopped.

13. The display apparatus according to any one of claims 10 to 12, characterized in that the overall image displayable range of the vertical display may be essentially occupied by a plurality of divided image display areas.

14. The display apparatus according to any one of claims 10 to 13, characterized in that the overall image displayable range of the vertical display is divided into image display area juxtaposed in a vertical direction.

15. The display apparatus according to any one of claims 10 to 14, characterized in that said renewal area switching section is set so as to switch a mode of whether or not the renewal of the turning image data is automatically performed in each divided area of the

image memory.

16. The display apparatus according to claim 15, characterized in that said renewal area switching section is set so as to switch a mode of whether or not the renewal of the turning image data is automatically performed in the divided area of the image memory in accordance with a signal contained in the image signal or a situation of a picture image or a still image of the image signal outputted from the image feeding unit.

17. A display apparatus characterized by comprising an input section for inputting an image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a camera or the like, a 90 degree image turning processing section for writing in a memory the image signal to be inputted in real time from the input section and making it possible for turning the written image data through 90 degrees, an output section for outputting the image signal to a laterally elongated display or a vertical display set in a vertical direction by turning the laterally elongated display through 90 degrees, and an image cutout section structured so that a predetermined portion written in the memory is read out, wherein a trimming image signal cut out with the predetermined portion of the image signal from the image feeding unit is prepared and the trimming image signal may be outputted to the display from the output section, so that the image signal outputted from said image feeding unit may be fed and displayed in real time as the trimming image signal turned through 90 degrees by the 90 degree image turning processing section and the image cutout section.

18. The display apparatus according to claim 17, characterized in that said image cutout section prepares the trimming image signal cut out longitudinally from a predetermined portion of an image signal outputted from the image feeding unit and for making it possible to outputting the trimming image signal from the output section to the laterally elongated display or the vertical display set in the vertical direction by turning the laterally elongated display through 90 degrees.

19. The display apparatus according to claim 17, characterized in that said image cutout section prepares the trimming image signal cut out from a middle portion of an image signal outputted from the image feeding unit and for making it possible to outputting the trimming image signal from the output section to the laterally elongated display or the vertical display

set in the vertical direction by turning the laterally elongated display through 90 degrees.

20. The display apparatus according to any one of claims 17 to 19, characterized in that said image cutout section is set so that the trimming image signal cut out from the image signal outputted from the image feeding unit may be enlarged and displayed to the laterally elongated display or the vertical display set in the vertical direction by turning the laterally elongated display through 90 degrees.

21. The display apparatus according to any one of claims 17 to 20, characterized in that said image cutout section is set so that a trimming image signal cut out longitudinally from a predetermined portion of the image signal outputted from the image feeding unit may be enlarged and displayed so as to essentially occupy the overall image displayable range of the vertical display set in the vertical direction by rotating the laterally elongated display through 90 degrees.

22. The display apparatus according to any one of claims 1 to 3 and 7 to 21, characterized by comprising a quantizing section for quantizing the jump scanning signal from the image feeding unit and inputted to the input section, the scanning type converting section adapted to convert the quantized image signal to the sequential scanning type or the sequential scanning type after turning through 90 degrees, and an analog signal section for making the image signal from said scanning type converting section or the image signal from the 90 degree image processing section analog signal so that the analog image signal is outputted from the output section.

23. The display apparatus according to any one of claims 1 to 3 and 7 to 22, characterized in that the 90 degree turning processing section is adapted so that the jump scanning type image signal to be inputted in real time from the input section or the image signal converted into the sequential scanning type by the scanning type converting section is written in the memory, and the written image data are read out from the address turned through 90 degrees (270 degrees) so that the image is turned through 90 degrees and may be fed and displayed on the vertical display in real time.

24. An advertising method using a display apparatus characterized in that a display unit for turning through 90 degrees (including 270 degrees) an image by an image signal outputted in real time from an image feeding unit such as a TV receiver, a VTR, a DVD, a

camera or the like is used, and the image signal turned through 90 degrees and outputted in real time from the display unit is fed and displayed to a thin vertical color display that may be attached to a wall and is laterally elongated color display such as a plasma display or an LCD display to thereby perform a poster advertisement with the thin vertical color display in which the image from the image feeding unit is displayed in real time.

25. The advertising method using the display apparatus according to claim 24, characterized in that a poster advertisement is performed by the thin vertical color display in which the image from the image feeding unit is displayed in real time by using the display apparatus according to any one of claims 1 to 3 and 7 to 23 as the display apparatus.